

REMARKS

Claims 11 to 17 and 19 to 21 were rejected under 35 U.S.C. 103(a) as being unpatentable as unpatentable over Meintschel et al. (DE 10204122) in view of Keck et al. (U.S. Patent No. 5,054,195). Claims 22 to 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Meintschel et al. in view of Ysberg (U.S. Patent 3,911,875).

Claims 11, 20 and 22 have been amended. Support is found in the specification for example at paragraphs [0022], [0023], [0027] and [0028].

Reconsideration of the application in view of the amendments and the following remarks is respectfully requested.

Finality of the Office Action

Applicant's representative, Clint Mehall, spoke with the Examiner Tietjen on February 17, 2010 concerning the finality of the Office Action of December 8, 2009. Mr. Mehall pointed out that because Meintschel et al. (DE 10204122) is in German and no translation of Meintschel et al. (DE 10204122) was provided with the Office Action of December 8, 2009, MPEP 706.02, subsection II, precludes the Office Action of December 8, 2009 from being a final rejection. Examiner Tietjen admitted that the finality of the Office Action of Tietjen, 2009 was improper and stated that this Response to Office Action would be treated as a response to a non-final Office Action. Applicants thank Examiner Tietjen for her courtesy.

35 U.S.C. 103(a) Rejections

Claims 11 to 17 and 19 to 21 were rejected under 35 U.S.C. 103(a) as being unpatentable as unpatentable over Meintschel et al. in view of Keck et al.

Meintschel et al. discloses a valve for a reciprocating piston machine. (English abstract). In the embodiment shown in Fig. 3, the valve includes a disk 28, a cone 27 and a shaft 22. (See Fig. 3).

Keck et al. discloses a valve shank 3 having a widening shank section that is connected to a valve disk 10 at a point of connection 9. (Col. 3, lines 26 to 29). As shown in Figs. 5a to 5c, valve disk 10 may have different shapes and valve shank 3 must be designed at the point of connection 9 according to the shape of valve disk 10. (Col. 3, lines 29 to 36). What is important

in all of the embodiments in Figs. 5a to 5c is that that point of connection 9 of the valve back is at a position lying above the valve seat 13 and consequently not subjected to such great loads. (Col. 3, lines 45 to 49).

Claim 11, as amended, recites “[a] lightweight valve comprising:

a valve stem;

a hollow valve cone with a hollow space having an end of greater diameter, the end having an inner circumference, an outer circumference and an end face between the inner circumference and the outer circumference; and

a valve disk closing the hollow space on one side and having a flat side facing the valve cone;

the valve stem being connected to a stem connection element formed on or fastened to the valve disk;

a valve cone support located at a distance from the valve disk and provided in the hollow space, the valve cone support being located on the stem connection element and projecting above the flat side; and

the valve disk having a longitudinal portion extending from the flat side of the valve disk, the flat side of the valve disk and the longitudinal portion defining a recess serving as a centering or supporting seat for receiving the end of greater diameter of the valve cone, the valve disk including a step extending upward from the flat side of the valve disk, the step including an angled surface that is angled with respect to the flat side of the valve disk, the angled surface supporting the inner circumference of the end of greater diameter of the valve cone, the longitudinal portion supporting the end face of the end of greater diameter of the valve cone.”

It is respectfully submitted that neither Meintschel et al. nor Keck et al., alone or in combination, discloses “the step including an angled surface that is angled with respect to the flat side of the valve disk, the angled surface supporting the inner circumference of the end of greater diameter of the valve cone, the longitudinal portion supporting the end face of the end of greater diameter of the valve cone” as recited in claim 11. In Fig. 3 of Meintschel et al., which is relied on in the Office Action, disk 28 appears to fit inside of cone 27. Disk 28 of Meintschel et al. clearly does not include a step including an angled surface that supports the inner circumference of the end of greater diameter of cone 27 or a longitudinal portion that supports an end face of the end of greater diameter of cone 27. Keck et al. does not cure these deficiencies of Meintschel

et al. with respect to claim 11. In Figs. 5a and 5b of Keck et al., which are relied on in the Office Action, valve disk 10 is coupled to valve shank 3 at a connection point 9. Valve disk 10 of Keck et al. clearly does not include a step having an angled surface that supports the inner circumference of the end of valve shank 3. As shown in Figs. 5a and 5b of Keck et al., the inner circumference of the end of valve shank 3 is not supported at all by valve disk 10.

Furthermore, it is respectfully submitted that one of skill in the art would not have modified the valve of Meintschel et al. in view of the valve of Keck et al. to include the arrangement between the “valve disk” and “valve cone” of claim 11. Keck et al. teaches connecting valve disk 10 to valve shank 3, but does not teach using a valve cone at all. Thus, if anything, one of skill in the art might have been motivated to modify the connection between shaft 22 and disk 28 of Meintschel et al. in view of the connection between valve disk 10 and valve shank 3 of Keck et al., but would not have had any reason to have modified the arrangement between disk 28 and cone 27 of Meintschel et al. in view of the connection between valve disk 10 and valve shank 3 of Keck et al.

Withdrawal of the rejection under 35 U.S.C. 103(a) of claim 11 and its dependent claims 12 to 17 and 19 to 21 is respectfully requested.

Claims 22 and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Meintschel et al. in view of Ysberg (U.S. Patent 3,911,875).

Claims 22 and 23 are now dependent on claim 11. Ysberg does not show or teach the arrangement between the “valve disk” and “valve cone” required by claim 11 and thus does not cure the deficiency of Meintschel et al. with respect to claim 11. In view of the arguments presented above explaining why claim 11 is not unpatentable as obvious in view of Meintschel et al. and Keck et al., withdrawal of the rejection under 35 U.S.C. 103(a) of claims 22 and 23 is respectfully requested.

Conclusion

It is respectfully submitted that the present application is now in condition for allowance, and Applicants respectfully requests such action.

Respectfully submitted,

DAVIDSON, DAVIDSON & KAPPEL, LLC

By: 

William C. Gehris
Reg. No. 38,156

DAVIDSON, DAVIDSON & KAPPEL, LLC
485 Seventh Avenue, 14th Floor
New York, New York 10018
(212) 736 – 1940